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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,738	03/04/2005	Jared S Timko	22188/06985	7877
24024 7590 12/29/2008 CALFEE HALTER & GRISWOLD, LLP 800 SUPERIOR AVENUE SUITE 1400 CLEVELAND, OH 44114				
EXAMINER BASTIANELLI, JOHN				
ART UNIT		PAPER NUMBER		
3753				
NOTIFICATION DATE		DELIVERY MODE		
12/29/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/526,738

Applicant(s)

TIMKO ET AL.

Examiner

John Bastianelli

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38-42, 44, 46-48, 50, 52, 59-68, 72-79 and 82-92 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 38-42, 44, 46-48, 50, 52, 59-68, 72-79 and 82-92 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-848)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/10/2008
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Request for Continued Examination

1. The request filed on October 10, 2008 for a Request for Continued Examination (RCE) is acceptable and an action on the RCE follows.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 92 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 92 is the exact same claim as claim 86.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 38-42, 44, 46, 50, 59, 66-67, 72, 76-77, 79, 82, 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scaramucci US 3,599,932.

Scaramucci discloses a valve 10 having a valve body 12 having a valve cavity therein; a valve element 64a for controlling flow through the valve based on a rotational position of the valve element about an axis of rotation, and a single piece packing 110 that

surrounds said valve element and has a cylindrical outer surface that is cylindrical and seals directly against said valve element within said valve cavity; wherein said valve element comprises a spherical ball 82 and adjacent upper and lower cylindrical trunnions 148 and 152 extending from the ball along said axis of rotation; said lower cylindrical trunnion extending axially past a lowermost end of said packing; said valve cavity being dimensioned to closely receive said valve element. Scaramucci is silent as to the ratio $D3$ (trunnion outer diameter)/ $D1$ (ball maximum outer diameter) of about .8. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the trunnion almost as wide as the ball $D3/D1$ of about .8 in order to make machining the valve element easier as less material would need to be removed from the ball part of the valve to the trunnion. Scaramucci is silent as to the ratio of H (packing distance along said axis of rotation from bottom to top)/ $D4$ (outer diameter) of about .8. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the packing wider than taller $H/D4$ of about .8 in order to make the packing thicker to provide better sealing due to more compressible material around the point of contact of fluid flow and seal. The packing is seen as dimensioned "to be installed on said valve element with a room temperature range" of "about 65-100 degrees F" and this is product by process. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product in the prior art, the claim is unpatentable even though the prior product was made by a different process (see MPEP 2113). The valve element is seen as spherical in Fig. 4. The packing is an

interference fit with the valve element. The term "when said packing is installed thereon prior to loading said packing within said valve cavity" is product by process. The packing is seen as dimensioned "to be installed on said valve element at a temperature below which said packing deforms" of "about room temperature" and this is product by process. The valve element has a ratio $D3/D1$ that facilitates assembly of the packing onto the valve element at room temperature. A stem 56 or 130 (Fig. 4) extending from the upper trunnion has a smaller diameter than the upper trunnion. The valve cavity has a reduced diameter counterbore sized to form a clearance fit between the lower trunnion and the counterbore that prevents a lower portion of the packing from extruding into the counter bore.

5. Claims 38-42, 44, 46, 50, 59, and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scaramucci US 3,599,932 in view of Moen US 3,192,943. Scaramucci is silent as to the ratio of $D3/D1$ of about .8. Moen shows $D3/D1$ in which the ball is slightly larger than the trunnion with a ratio of about .8. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the trunnion of Scaramucci almost as wide as the ball $D3/D1$ of about .8 as disclosed by Moen in order to make machining the valve element easier as less material would need to be removed from the ball part of the valve to the trunnion.

6. Claims 41-42, 46, 66-67, 72, 76-77 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scaramucci US 3,599,932 in view of Schmitt US 4,423,749. Scaramucci is silent as to the ratio of $H/D4$ of about .8. Schmitt shows $H/D4$ in which the packing is slightly wider than it is tall with a ratio of about .8. It would have been

obvious to one having ordinary skill in the art at the time the invention was made to make the packing of Scaramucci wider than taller $H/D4$ of about .8 as disclosed by Schmitt in order to make the packing thicker to provide better sealing due to more compressible material around the point of contact of fluid flow and seal.

7. Claims 41-42, 46, and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scaramucci US 3,599,932 in view of Moen US 3,192,943 in view of Schmitt US 4,423,749.

Scaramucci is silent as to the ratio of $D3/D1$ of about .8. Moen shows $D3/D1$ in which the ball is slightly larger than the trunnion with a ratio of about .8. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the trunnion of Scaramucci almost as wide as the ball $D3/D1$ of about .8 as disclosed by Moen in order to make machining the valve element easier as less material would need to be removed from the ball part of the valve to the trunnion. Scaramucci is silent as to the ratio of $H/D4$ of about .8. Schmitt shows $H/D4$ in which the packing is slightly wider than it is tall with a ratio of about .8. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the packing of Scaramucci wider than taller $H/D4$ of about .8 as disclosed by Schmitt in order to make the packing thicker to provide better sealing due to more compressible material around the point of contact of fluid flow and seal.

8. Claims 47-48, 52, 61-62, 68, 73-74, 83-85, 87-92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scaramucci US 3,599,932 in view of Soria Vega US 5,595,206 as evidenced by Schmitt US 4,423,749.

Scaramucci lacks the packing made of a plastic polymer of PTFE, polyethylene, or PFA. Soria Vega discloses the packing made of PTFE, polyethylene, or PFA. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the packing of Scaramucci out of PTFE, polyethylene or PFA as disclosed by Soria Vega as these materials provide better corrosion resistance and easier turning of the valve. Regarding claims 85, 87-88, and 90-91, the patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product in the prior art, the claim is unpatentable even though the prior product was made by a different process (see MPEP 2113). The process of "to be snap fit" is product by process and the packing at the temperature of being between 65-100 degrees F is cited previously. Scaramucci lacks the method step of installing/snapping the packing over the ball while the temperature is between 65-100 degrees F. Schmitt discloses evidence of installing/snapping the packing onto the ball while the temperature is between 65-100 degrees F (col. 3, lines 29-45).

9. Claims 85, 87-88, and 90-91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scaramucci US 3,599,932 in view of Soria Vega US 5,595,206 in view of Schmitt US 4,423,749.

Scaramucci lacks the packing made of a plastic polymer of PTFE, polyethylene, or PFA. Soria Vega discloses the packing made of PTFE, polyethylene, or PFA. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the packing of Scaramucci out of PTFE, polyethylene or PFA as disclosed by Soria Vega as these materials provide better corrosion resistance and easier turning of

the valve. Regarding claim claims 85, 87-88, and 90-91, the patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product in the prior art, the claim is unpatentable even though the prior product was made by a different process (see MPEP 2113). The process of "to be snap fit" is product by process and the packing at the temperature of being between 65-100 degrees F is cited previously. Scaramucci lacks the method step of installing/snapping the packing over the ball while the temperature is between 65-100 degrees F. Schmitt discloses installing/snapping the packing onto the ball while the temperature is between 65-100 degrees F (col. 3, lines 29-45). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the method of installing/snapping the packing onto the ball while the temperature is between 65-100 degrees F as disclosed by Schmitt as the installation method of Scaramucci in order to make assembly step easier by reducing assembly steps.

10. Claims 47-48, 52, and 61-62, are rejected under 35 U.S.C. 103(a) as being unpatentable over Scaramucci US 3,599,932 in view of Moen US 3,192,943 in view of Soria Vega US 5,595,206.

Scaramucci lacks the packing made of a plastic polymer of PTFE, polyethylene, or PFA. Soria Vega discloses the packing made of PTFE, polyethylene, or PFA. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the packing of Scaramucci out of PTFE, polyethylene or PFA as disclosed by Soria Vega as these materials provide better corrosion resistance and easier turning of the valve.

11. Claims 68 and 73-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scaramucci US 3,599,932 in view of Schmitt US 4,423,749 in view of Soria Vega US 5,595,206.

Scaramucci lacks the packing made of a plastic polymer of PTFE, polyethylene, or PFA. Soria Vega discloses the packing made of PTFE, polyethylene, or PFA. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the packing of Scaramucci out of PTFE, polyethylene or PFA as disclosed by Soria Vega as these materials provide better corrosion resistance and easier turning of the valve.

12. Claims 60, 65, and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scaramucci US 3,599,932 in view of Kemp US 4,911,408.

Scaramucci lacks the packing being live loaded in a direction of axis of rotation. Kemp discloses live loading a packing in a direction of axis of rotation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the packing of Scaramucci live loaded as disclosed by Kemp in order to keep everything tight and movable in order to allow play in two opposite directions along the axis of rotation in order to keep the valve from breaking if a large force happened to be provided in the upward or downward direction.

13. Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scaramucci US 3,599,932 in view of Moen US 3,192,943 in view of Kemp US 4,911,408.

Scaramucci lacks the packing being live loaded. Kemp discloses live loading a packing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the packing of Scaramucci live loaded as disclosed by Kemp in order to keep everything tight.

14. Claim 75 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scaramucci US 3,599,932 in view of Schmitt US 4,423,749 in view of Kemp US 4,911,408.

Scaramucci lacks the packing being live loaded. Kemp discloses live loading a packing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the packing of Scaramucci live loaded as disclosed by Kemp in order to keep everything tight.

15. Claims 59, 63, 64 and 76-78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scaramucci US 3,599,932 in view of Reed, Jr. US 3,066,909.

Scaramucci discloses a valve element for controlling flow through the valve based on a rotational position of the valve element about an axis, and a single piece packing that surrounds said valve element; and seals said valve element within said valve cavity; wherein said valve element comprises a ball and adjacent upper and lower cylindrical trunnions extending from the ball; a lower end of said single piece packing seals directly against said lower cylindrical trunnion; said lower cylindrical trunnion extending axially along said rotational axis past a lowermost end of said packing; said valve cavity including a reduced diameter counterbore being dimensioned to closely receive said lower cylindrical trunnion of said valve element. Scaramucci lacks the bottom of the

lower trunnion spaced apart from the reduced counterbore to shift in two opposite directions along the axis of rotation. Reed discloses the bottom of the lower trunnion (bottom of 7) spaced apart from the reduced counterbore 13. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the lower trunnion of Scaramucci have a reduced counterbore that is spaced from the bottom end of the trunnion as disclosed by Reed in order to allow play in two opposite directions along the axis of rotation in order to keep the valve from breaking if a large force happened to be provided in the upward or downward direction.

16. Claim 59 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scaramucci US 3,599,932 in view of Moen US 3,192,943 in view of Reed, Jr. US 3,066,909. Scaramucci is silent as to the ratio of D3/D1 of about .8. Moen shows D3/D1 in which the ball is slightly larger than the trunnion with a ratio of about .8. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the trunnion of Scaramucci almost as wide as the ball D3/D1 of about .8 as disclosed by Moen in order to make machining the valve element easier as less material would need to be removed from the ball part of the valve to the trunnion. Scaramucci lacks the bottom of the lower trunnion spaced apart from the reduced counterbore. Reed discloses the bottom of the lower trunnion (bottom of 7) spaced apart from the reduced counterbore 13. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the lower trunnion of Scaramucci have a reduced counterbore that is spaced from the bottom end of the trunnion as disclosed by

Reed in order to allow play in the axial direction in order to keep the valve from breaking if a large force happened to be provided in the downward direction.

17. Claims 76-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scaramucci US 3,599,932 in view of Schmitt US 4,423,749 in view of Reed, Jr. US 3,066,909.

Scaramucci is silent as to the ratio of H/D4 of about .8. Schmitt shows H/D4 in which the packing is slightly wider than it is tall with a ratio of about .8. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the packing of Scaramucci wider than taller H/D4 of about .8 as disclosed by Schmitt in order to make the packing thicker to provide better sealing due to more compressible material around the point of contact of fluid flow and seal. Scaramucci lacks the bottom of the lower trunnion spaced apart from the reduced counterbore. Reed discloses the bottom of the lower trunnion (bottom of 7) spaced apart from the reduced counterbore 13. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the lower trunnion of Scaramucci have a reduced counterbore that is spaced from the bottom end of the trunnion as disclosed by Reed in order to allow play in the axial direction in order to keep the valve from breaking if a large force happened to be provided in the downward direction.

18. Claim 78 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scaramucci US 3,599,932 in view of Moen US 3,192,943 in view of Schmitt US 4,423,749 in view of Reed, Jr. US 3,066,909.

Scaramucci is silent as to the ratio of $D3/D1$ of about .8. Moen shows $D3/D1$ in which the ball is slightly larger than the trunnion with a ratio of about .8. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the trunnion of Scaramucci almost as wide as the ball $D3/D1$ of about .8 as disclosed by Moen in order to make machining the valve element easier as less material would need to be removed from the ball part of the valve to the trunnion. Scaramucci is silent as to the ratio of $H/D4$ of about .8. Schmitt shows $H/D4$ in which the packing is slightly wider than it is tall with a ratio of about .8. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the packing of Scaramucci wider than taller $H/D4$ of about .8 as disclosed by Schmitt in order to make the packing thicker to provide better sealing due to more compressible material around the point of contact of fluid flow and seal. Scaramucci lacks the bottom of the lower trunnion spaced apart from the reduced counterbore. Reed discloses the bottom of the lower trunnion (bottom of 7) spaced apart from the reduced counterbore 13. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the lower trunnion of Scaramucci have a reduced counterbore that is spaced from the bottom end of the trunnion as disclosed by Reed in order to allow play in the axial direction in two directions in order to keep the valve from breaking if a large force happened to be provided in the upward or downward direction.

Response to Arguments

19. Applicant's arguments filed October 10, 2008 have been fully considered but they are not persuasive.

20. The examiner would like to note that applicant admits that in prior art ball valves that trunnion to ball diameter ratio ($D3/D1$) is typically 0.3-0.65 (p.8) and applicant's is claiming a ratio of 0.7-0.9. Therefore the applicant is admitting that the applicant is increasing a prior art ball valve ratio from .65 to .7 which is only a 7.7% enlargement from the closest ratios. Also, applicant admits that in prior art ball valves that packing height to packing outside diameter ratio ($H/D4$) is typically 0.9-1.1 (p.11) and applicant's is 0.75-0.85. Therefore the applicant is admitting that the applicant is decreasing a prior art ball valve ratio from .9 to .85 which is only a 5.6% decrease. The examiner believes it would be obvious to try different ratios to fit particular size of valves and that this small change in ratios is not a patentable feature.

21. Applicant argues that the orientation of the Scaramucci packing makes it impossible for the height and width dimensions of to be modified to have the claimed $H/D4$ dimensions. The examiner disagrees as the applicant appears to be assuming that all the other dimensions of the valve would stay the same as this would not be the case to someone of obvious skill in the art as this would leave gaps and such someone with obvious skill in the art would modify the valve to have contact by all pieces to keep the valve from leaking. The applicant argues that the Scaramucci has to have $H/D4$ of 1 but this does not make sense as this is exactly what the examiner is modifying.

22. Regarding applicant's arguments that D3/D1 is based on hindsight: In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The examiner does not understand applicant's argument about an infinite number of possible trunnions. This does not make sense. Regarding applicant's argument about meeting the ratios, the examiner has submitted reasons for meeting the applicant's ratios. Regarding applicant's arguments about the materials and temperatures, the examiner has provided reasons for modifying in the rejections above.

23. Regarding applicant's arguments about the valve element is allowed to shift in two opposite directions, the examiner has provided motivation to provide this feature and Reed being a plug valve is in the same art of rotary valves thus would be used by a person with obvious skill in the art.

24. Regarding applicant's arguments about the valve element being live loaded, the examiner has provided motivation to provide this feature as this is a minor modification and well known in the art to apply a live loading as disclosed by Kemp.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Bastianelli whose telephone number is (571) 272-4921. The examiner can normally be reached on M-Th (8-6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Huson can be reached on (571) 272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Bastianelli
Primary Examiner
Art Unit 3753

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